

PROGRAMMABLE MULTISTAGE AMPLIFIER AND RADIO APPLICATIONS THEREOF

ABSTRACT OF THE DISCLOSURE

5

A programmable multi-stage amplifier includes a 1st programmable amplifier, a 2nd programmable amplifier, and a control module. The 1st and 2nd programmable amplifiers are coupled in series to amplify an input signal. Each of the 1st and 2nd programmable amplifiers is operably coupled to receive independent gain control signals from the control module. The control module generates the gain control signals by determining the overall gain desired for the programmable multi-stage amplifier and a corresponding gain for each of the 1st and 2nd programmable amplifiers. The factors in which the control module makes this determination are based on an optimization of at least one of the power level of the programmable multi-stage amplifier, the noise factor for the programmable multi-stage amplifier, and/or linearity of the programmable multi-stage amplifier.

2025 RELEASE UNDER E.O. 14176